Title: Genus and Braid Index Associated to Sequences of Renormalizable Lorenz Maps

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Abstract: We describe the Lorenz links generated by renormalizable Lorenz maps with reducible kneading invariant (K(f)(-), = K(f)(+)) = (X, Y) * (S, W) in terms of the links corresponding to each factor. This gives one new kind of operation that permits us to generate new knots and links from the ones corresponding to the factors of the *-product. Using this result we obtain explicit formulas for the genus and the braid index of this renormalizable Lorenz knots and links. Then we obtain explicit formulas for sequences of these invariants, associated to sequences of renormalizable Lorenz maps with kneading invariant (X, Y) * (S,W)*(n), concluding that both grow exponentially. This is specially relevant, since it is known that topological entropy is constant on the archipelagoes of renormalization.

Author Keywords: Lorenz Knots; Renormalization; Genus; Braid Index

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